

### REMARKS

This Amendment is in response to the Office Action dated September 17, 2007, in which claims 1-14 were rejected. Applicants respectfully request reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

#### I. TELEPHONE INTERVIEW

Applicant's attorney would like to thank the Examiner for the courtesies extended during a telephone interview on December 14, 2007. The discussion focussed on the elements of claim 1 and the disclosure of the cited Chen et al. publication.

Applicant's attorney proposed the above-amendment, wherein the first communication mode is based on a single carrier modulation "assigned to both uplink and downlink communication." The Examiner proposed that the term "transmission device" be with "base station". The Examiner suggested this replacement would make it more clear that one base station was performing each of the claimed modes and also transmitting the signaling information to change over.

Accordingly, independent claims 1, 12, 13 and 14 are amended to specify that the single carrier modulation is "assigned to both uplink and downlink communication."

Independent claims 1, 12 and 14 are amended to replace "transmission device" with "base station". However, independent claim 13 retains the term, "transmission device" since the amendment regarding the single carrier modulation, in combination with the other elements of claim 13, is new and non-obvious in view of the cited references.

#### II. CLAIM REJECTIONS UNDER §102(e) BASED ON CHEN

Claims 1, 4-5, 9, 11 and 12-14 are rejected under §102(e) as being allegedly anticipated by Chen et al. (U.S. Publ. No. 2005/0059401).

##### A. **Chen Hands-Off From One Base Station To Another Base Station**

As discussed in Applicants' previous response, Chen et al. relates to wireless telecommunications and a handoff from one base station to another base station, considering their capabilities.

More precisely, Chen et al. disclose a method for a wireless telecommunications

infrastructure to facilitate a remote station handoff from a set of single carrier-compliant base stations to at least one multi-carrier compliant base station, while a remote station is in the coverage area of both types of base stations (paragraph 28).

For instance, a handoff between a single carrier base station BS1 and a multi-carrier base station BS3 is described in figure 6, for a remote station X. According to this example, the remote station receives is instructed to cease single carrier communications with BS1, and to begin multi-carrier communications for the communication between BS3.

According to Chen, there is a changeover in the transmission protocol, i.e. the remote station changes from a single carrier transmission protocol to a multi-carrier transmission protocol, when the terminal (remote station) communicates with a new base station.

For example, according to figures 5, 6 and 7, the terminal communicates according to a single carrier transmission protocol with base stations BS1D and BS1E, and then according to a multi-carrier transmission protocol with base station BS3B.

**B. In Chen et al.'s FIG. 13, BS3 Single-Carrier Assigned Only to Uplink**

The Office Action refers to FIG. 13 (the third handoff embodiment) of Chen et al. This figure and paragraph [0010] describe a handoff from one base station BS1 to another base station BS3, where the remote station is instructed to continue transmitting data in accordance with a single-carrier protocol in Nr, and to begin receiving data in accordance with a multiple-carrier protocol in Wf from base station BS3.

Chen et al. discloses that, when communicating with BS3, the single carrier protocol Nr is assigned only to the uplink Nr (not a downlink), and then only temporarily.

Further, as described in paragraph [0112], once the remote station travels so that it is no longer in the coverage of single carrier BS1, a subsequent handoff occurs, wherein the remote station switches from the single carrier uplink to using multiple-carrier frequency bands Wr and Wf for both forward and reverse links. This subsequent hand off also instructs the remote station to stop single carrier communications.

Thus, for base station BS3, Chen et al. do not disclose a first communication mode “based on a single carrier modulation assigned to both uplink and downlink”

communication between the base station and the receiving terminal.”

In claim 1, it is the same base station with which the terminal communicates according to the first communication mode (single carrier modulation for uplink and downlink) and according to the second communication mode (multiple carrier modulation assigned to downlink only).

**C. Chen’s Multiple Carrier Modulation is not Assigned “Solely” to Downlink.**

Paragraph [0112] of Chen et al. further describes that, for the third handoff embodiment shown in FIG. 13, with the subsequent handoff, the remote station switches from the single carrier uplink to using multiple-carrier frequency bands W<sub>r</sub> and W<sub>f</sub> so that it ceases “all single-carrier communications” and only communicates “using the multi-carrier protocol on the forward and reverse links.” Thus, the multi-carrier modulation is not “solely assigned to downlink” as recited in claim 1.

**D. Chen’s BS3 Does Not Transmit the “Signaling Information” Recited in Claim 1.**

Claim 1 recites that the Base Station transmits “at least one signaling information . . . to the receiving terminal through the first communication mode,” which implements the changeover from the first communication mode to the second communication mode.

Chen et al. does not disclose that BS3 transmits signaling information to changeover from:

- a first communication mode (with the same base station) using single carrier modulation assigned to both uplink and downlink; and
- a second communication mode (with the same base station) using a multiple carrier modulation being solely assigned to downlink.

**E. Claim 1 and its Dependent Claims Are Therefore Not Anticipated by Chen et al.**

Since Chen et al. do not anticipate the above-elements of claim 1, Applicants respectfully request that the rejections of claim 1 and its dependent claims 4-5, 9 and 11 under §102(e) be withdrawn.

**F. Independent Claims 12 and 14**

Independent claims 12 and 14 are amended in a similar fashion as independent claim 1. Accordingly, claims 12 and 14 are also not anticipated by Chen et al.

**G. Independent Claim 13**

Claim 13 is amended to specify that the single carrier modulation is “assigned to both uplink and downlink communication.”

Similar to the discussion of claim 1, Chen et al. do not disclose a transmission device (e.g., a base station) that has the modes recited in claim 13.

In Chen et al.’s FIG. 13, BS3 has only an uplink (Nr) for the single-carrier protocol. FIG. 13 (the third handoff embodiment) and paragraph [0010] describe a handoff from one base station BS1 to another base station BS3, where the remote station is instructed to continue transmitting data in accordance with a single-carrier protocol in Nr, and to begin receiving data in accordance with a multiple-carrier protocol in Wf from base station BS3.

Chen et al. disclose that, when communicating with BS3, the single carrier protocol Nr is assigned only to the uplink Nr (not a downlink Nf), and then only temporarily.

Further, as described in paragraph [0112], once the remote station travels so that it is no longer in the coverage of single carrier BS1, a subsequent handoff occurs, wherein the remote station switches from the single carrier uplink to using multiple-carrier frequency bands Wr and Wf for both forward and reverse links. This subsequent hand off also instructs the remote station to stop single carrier communications.

Thus, for base station BS3, Chen et al. do not disclose transmission device having a first communication mode “based on a single carrier modulation assigned to both uplink and downlink communication between the base station and the receiving terminal.”

In claim 13, it is the same transmission device with which the terminal communicates according to the first communication mode (single carrier modulation for uplink

and downlink) and according to the second communication mode (multiple carrier modulation assigned to downlink only).

Paragraph [0112] of Chen et al. further describes that the multi-carrier modulation is not “solely assigned to downlink” as recited in claim 1.

Chen et al. does not disclose that BS3 transmits signaling information to changeover from:

- a first communication mode (with the same transmission device) using single carrier modulation assigned to both uplink and downlink; and
- a second communication mode (with the same transmission device) using a multiple carrier modulation being solely assigned to downlink.

Claim 13 is therefore also not anticipated by Chen et al.

### III. CLAIM REJECTIONS UNDER §103

Claims 2 and 3 are rejected as being unpatentable over Chen in view of Alard (U.S. Patent No. 6,584,068).

Claims 6 and 7 are rejected as being unpatentable over Chen in view of Jou (U.S. Patent No. 6,925,067).

Claim 8 is rejected as being unpatentable over Chen. in view of Bohnke (U.S. Patent No. 6,567,383).

Claim 10 is rejected as being unpatentable over Chen. in view of Dolgonos et al. (US 2002/0147978).

Claims 2-3, 6-7, 8 and 10 are allowable with the allowance of independent claims 1 and 12-14. These claims are also believed to be new and non-obvious in view of Alard, Jou, Bohnke and Dolgonos.

Applicants therefore respectfully request that the rejections of claims 1-14 be withdrawn.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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